APPENDIX J

SPECIFICATIONS FOR BLANKETS

1808--Five hundred three point twilled cotton Blankets, to have at each end a broad blue stripe & none on the sides; also to have on the side near the said stripe at the rear end next to the [illegible] three small blue points about five inches in length; the blankets to be of the weight of three pounds and one half each when finished, and to measure in the same state full six feet in length & full four feet seven inches in width; the pile or nap to be well raised on the upper side, and to be as well raised as may be conveniently practicable on the lower side. The price to be two Dollars and one quarters for each blanket paid on delivery and after Inspection. The which is to be completed within six months from this date.

--Contract, Coxe to Joseph Garlick and Daniel MGinnis, June 15, 1808, QMConFile--Blankets, RG92.

1811--The blankets will be made at $2.60 twilled 3-1/4 to 3-1/2 lb.--6 ft. by 4-1/2 ft.

--Coxe to Messrs. Shepherd, Aug. 24, 1811, quoted in Kummerow and Brown, Enlisted Barracks at Fort Snelling, 14.

1811--I am purchasing 3 point woolen twilled blankets 6 feet long 4 ft. 6 in. wide, and not less weighing 3-1/4 to 3-1/2 lb. each, twilled with a blue stripe at each end for $2.60.

--Coxe to William Montogomery, Sept. 16, 1811, quoted ibid., 14.

1812--Although we were satisfied with the texture & firmness of our Blankets, yet it would have been pleasing to have had a pattern by which to make them, or to have had some specific directions by which to govern ourselves. We should then have been certain of their being accepted. . . .

We are constructing a Machine to raise the Nap which promises less danger to the Blanket than the common method of doing it by hand, and wish to know if you would delay the delivery of the first parcel a week or two to give it trial, as the experiment was undertaken in consequence of your Recommendation.

--C. Hashfield of Providence to Coxe, Feb. 28, 1812, QMConFile--Blankets, RG92.

1814--P. M. Kell reported that he was about to buy 3000 or 4000 pairs of cotton blankets, each blanket two yards long, one and one-half yards wide, and about three and one-half pounds in weight, at eighty cents each.

--Kell to Irvine, Dec. 29, 1814, ibid.

1816--Six thousand Blankets, of Wool, Six feet six inches long, and five feet wide, each Blanket to weigh fifty-four ounces. They are to be scoured quite clean, and well fulled, and are to be in all respects equal to the Blanket in this Office, on which this Contract is founded.

--Contract, Irvine to McCallmont and Reilly of Philadelphia, 1816, ibid.

1821--I suggest for your consideration the propriety of having all Army blankets marked in the center thereof with the letters U. S. with indelible liquid. . . . I also suggest the propriety of having the great Coat marked inside and near the center of the backs. . . .

. . . I have recieved your letter of the 17th instant and approve for the reasons you give of marking the public blankets and great coats, and you will have it done accordingly.

--Irvine to Secretary of War, Jan. 17, 1821, and Secretary of War to Irvine, date not recorded, quoted in Kummerow and Brown, Enlisted Barracks at Fort Snelling, appendix.

1836--The narrow blue stripe for the blankets of indigo dye, and of finer wool than that in the blanket to which you have referred, is approved.

--Irvine to Richard Kimball, Feb. 8, 1836, quoted in ibid., 15.

1836--The blankets required for the soldiers are to be 6 feet 6 inches long and 5 feet wide. To be twilled, to be made of good wool, to have the nap well raised upon them on one side, and a little raised on the other, and each blanket is to weigh 4 pounds--also to have a blue stripe on each end, of indigo, about three inches wide-otherwise the blankets are to be white and perfectly clear of all foreign matter.

--Irvine to Messrs. Burnham and Baker, Dec. 12, 1836, quoted in ibid., 15.

1861--Blanket-woolen, gray, with letters U. S. in black, four inches long, in the centre; to be seven feet long, and five and a half feet wide, and to weigh five pounds.

--1861 Regulations, par. 1571.

Civil War--Blanket 1 (E31839/7832 MPM): The blanket is tan (a mixture of unbleached and brown fibers), measuring 78 inches by 64 inches. A two-inch wide stripe of green-brown is interwoven into the fabric 3-1/2 inches from the border only, paralleling the 64-inch sides. The outline letters "U S" are woven into the center in the same olive color wool; the letters are seven inches high, and the overall distance across them is 11-1/2 inches. . . .

Blanket 2 (E35137/8958 MPM): The blanket is tan (a mixture of unbleached and brown fibers), measuring 78 inches by 66 inches. A 2-3/4 inch strip of brown wool is interwoven into the fabric five inches from the border only, parallelling the 66-inch sides. The outline letters "U S" are woven into the center in brown wool; the letters are six inches high and the overall distance across the letters is nine inches. Stenciled parallel to one of the stripes are 1-1/2 inch high letters: "SERG'T F. W. Friese / CO. A 39 W. V." in two lines. Sergeant Frederick W. Freise served in the 39th Wisconsin Volunteer Infantry from 16 May to 22 September 1864. This blanket has been sewn to a backing of brown cotton, either as an attempt to make it more comfortable or in order to prevent the loose fibers from separating. It is presumed the added backing is post-War.

Blanket 3 (H2143/17020 MPM): The blanket is tan (a mixture of unbleached and brown fibers), measuring 78 inches by 68 inches. A 3-3/4 inch stripe of dark olive wool is interwoven into the fabric three inches from the border only, parallelling the 67-inch sides. The outline letters "U S" are woven into the center in the same olive wool, but differs in being formed from three parallel rows of fiber; these letters are

six inches high, and the overall distance across the letters is 12 inches. Printed below the letters in black letters in three lines respectively 3-1/2 inches, 4-1/2 inches and 2-3/4 inches high is the identification: "E. W. MIlls / Co. G. 30th R. / WIS. VOLS." Private Edward Mills enlisted in the 30th Wisconsin Volunteer Infantry 21 August 1862; he was discharged for disability on 15 January 1865. . . .

Blanket 4 (H16817/21683 MPM): The blanket is tan (a mixture of unbleached and brown fibers), measuring 80 inches by 64 inches. A 3-1/4 inch stripe of brown wool is interwoven into the fabric four inches from the border only, parallelling the 64-inch sides. The outline letters "U S" are woven into the center in brown wool; the letters are six inches high, and the overall distance across the letters is ten inches. The stripes are badly deteriorated. The blanket was carried by Albert Kunz who enlisted in Co. F 26th Wisconsin Volunteer Infantry 5 August 1862; he was wounded at Gettysburg and subsequently transferred to the 72nd Company, 2nd Battalion of the Veteran Reserve Corps; he mustered out 9 August 1865.

Blanket 5 (16818/21689 MPM): The blanket is tan (a mixture of unbleached and brown fibers), measuring 76 inches long. Only 41 inches of the width remain; all else was scissored away. The location of the "U S" indicates the original width was approximately 66 inches. A 3-1/4 inch deep olive stripe of wool of the same weave of materials as the remainder of the blanket is woven into the fabric four inches from the border only, paralleling the presumed 66-inch sides. In the would-be center, the outline letters "U S" are interwoven in deep olive wool, but like Blanket 3 above, are formed from three parallel rows of yarn. The letters are four inches high, and the overall distance across the letters is 10-1/2 inches.

--Museum catalog descriptions of five Civil War blankets, Milwaukee Public Museum, quoted in Chappell, "Barracks Furnishings."

Civil War--The latter is a blanket of tan wool (mixed unbleached and brown fibers), measuring 78-1/2 inches by 63 inches. A 2-3/8 inch olive-brown stripe of wool is interwoven approximately three inches from the border only, parallelling the 63-inch sides. The outline letters "U S" are woven into the center of the blanket with three rows of parallel olive-brown yarn; these letters are 5-1/2 inches high, and the overall distance across the letters is 11 inches. The borders, like most of these blankets, are frayed.

--Description of Civil War blanket in a private collection, quoted in ibid.

1873--Each blanket to be seven (7) feet long and five (5) feet six (6) inches wide, and to weigh five (5) pounds. To be gray in color, and made of pure long-staple wool, free from shoddy, reworked wool or cotton, or any impure materials; to have the letters "U. S." in black, four (4) inches long, in the center, and to bear a strain of not less than twenty-five (25) pounds per inch for the warp and thirty (3) pounds per inch for the woof without tearing. Note: It is immaterial whether the letters "U. S." be stamped on the blanket or woven into the fabric.

--Specifications for the new Mission and Pacific Woolen Mills blanket, Aug. 15, 1873, quoted in ibid.

1875--Blankets, Rubber. To be made of good strong unbleached muslin coated with India Rubber vulcanized; to be 46 inches wide and 7 inches long, and be provided with brass grommets.

A piece of stront [sic] webbing 24 inches long for the purpose of tying on blanket with two extra grommets for same.

The grommets to be one inch from their centres to the edge of the blanket on one side and end, and two inches to the other side and end.

The grommets must be stayed and placed equi-distant 14 inches apart so as to match.

Edges to be strenghened with an extra strip of rubber.

Furnished from Phila. Depot by Col. Easton March 2nd 1875.

--Miscellaneous Specifications, RG92.

SPECIFICATIONS FOR WOOLEN BLANKETS

Each blanket to be seven (7) feet long and five (5) feet six (6) inches wide, and to weigh five (5) pounds. To be gray in color, and made of pure long-staple wool, from from shoddy, reworked wool or cotton, or any impure materials; to have the letters "U.S." in dark blue, four (4) inches long, in the center; to bear a strain of not less than twenty-five (25) pounds per inch for the warp, and thirty (30) pounds per inch for the woof without tearing, and to have not less than twenty-two (22) threads of warp and twenty-five (25) threads of filling or woof to the inch. The threads to be well driven up. The stripes at ends of blanket to be dark blue, of pure indigo dye.

NOTE.--It is immaterial whether the letters "U.S." be stamped on the blanket or woven into the fabric: their color must be pure indigo dye.

Adopted by the Secretary of War August 23, 1876, in lieu of the specifications adopted August 15, 1873.

M.C. MEIGS,
Quartermaster-General, Brevet Major-General, U.S.A.

--1876, from ARQMG 1877, 269:

A comment on the color of Civil War blankets: According to William L. Brown III of the National Park Service (personal communication, Jan. 13, 1982, recent research by two investigators shows that Confederate clothgoods were, mostly, gray when finished. The dye, however, broke down quickly when exposed to air and light, turning them brown. The United States government, of course, specified gray in its large purchases of blankets at home and abroad. The brown color of so many specimens is probably a reflection of the same unstable dyeing; an unshipped specimen located in Denmark is gray.

APPENDIX K
OTHER SPECIFICATIONS

This appendix offers specifications and illustrations of other standard furnishings, in order:

1831, Camp Kettles, Mess Pans, Mess Cans
1875, Iron Pots
1875, Camp Kettles
1875, Company Order Books, Company Descriptive Books, Company Morning Report Books, and Company Clothing Account Books.
1875, Footlocker
1876, Stencil Plates, Scrubbing Brushes, Brooms
1878, Barrack Chairs

See also appendix C for cooking ranges.

1831, Kettles and Mess Pans and Cans--[The camp kettle is to be] made of the best American sheet iron and in the best manner as to workmanship. Seams neatly and tightly closed, the camp kettle having a well sized smooth and perfectly round base. Camp kettle in height 11-1/2" in dia. 12" 17 lbs. 12 oz.

There are to be two smaller sized kettles, made to fit into each other neatly as a nest of three. These are furnished by the pound.

Mess pan--dia. at top 11-1/2" and trifle more than 8-1/2" dia. at bottom. These are furnished by the piece. Height of mess can 5-1/4" both are neatly turned at the top over a stout wire.

--Irvine to Robert Dingee, Feb. 5, 1831, quoted in Kummerow and Brown, Enlisted Barracks at Fort Snelling, 24.

1875, Iron Pots--Pots: Iron. To be of cast iron, diameter outside at rim 15-3/8 inches, depth inside 11-1/2 inches, with three legs on bottom, 3-1/2 inches long; ear on opposite sides of the top for the bail.

The latter to be of round iron 7/16 of an inch diameter. Capacity 6 gallons. Weight 35 to 37 pounds.

Furnished from Phila Depot by Col Easton March 2nd 1875.

--Miscellaneous Specifications, RG92; probably far older than 1875.

1875, Camp Kettles--Kettles, Camp. To be of three sizes made of good American sheet iron, and so as to fit into each other in nests of three, viz: No. 1. the largest size should be 12 inches diameter and 11-3/4 inches deep: to contain 4-1/2 gallons.

No. 2. 10-1/4 inches diameter, 11-1/2 inches deep, to contain 3-1/2 gallons. No. 3. 9-1/2 inches diameter, 11-1/4 inches deep and to contain 2-1/2 gallons.

To have iron wire bails 5/16 of an inch in diamter, the ends to be drawn to a point.

Rim to be formed over a heavy iron wire.

Weight of nest of three ketties 17 to 17-1/2 pounds.

Furnished from Phila. Depot by Col. Easton, March 2nd, 1875.

--Ibid.; probably far older than 1875.

1875, Books-- Books, Company Order. To have 44 ruled leaves and 4 unruled leaves. 24 lbs. demy; size of paper when folded in book, 10-1/4 inches broad, 15-1/2 inches long.

Books, Company Descriptive. Same in all respects as the company order books, with the addition of printed heading according to pattern.

Furnished from Phila. Depot by Col. Easton, March 2nd 1875.

Books: Company Morning Report. To have 96 ruled and printed leaves, according to pattern, and four unruled blank fly leaves 24 lbs. per ream; size of paper when folded in book, 11 inches broad by 14-1/2 inches long. Furnished from Phila. Depot, by Col. Easton, March 2nd 1875.

Books, Company Clothing Account. To have 140 ruled and printed leaves, according to pattern, and 4 unruled blank fly leaves, 24 lbs demy; size of paper when folden [sic] in book: 10-1/4 inches broad, 15-1/2 inches long.

Furnished from Phila Depot by Col. Easton March 2nd 1875.

--Ibid.

1875, Footlocker--The Quartermaster Department will provide, in all permanent barracks, a box or a locker for each soldier in which to store his full dress uniform and extra clothing. The box or locker will be of the following dimensions: length 24:, breadth 12:, height 10:. To be constructed of pine, 3/4" thick, with iron hinges 10" in length and 1-1/2" in width, together with suitable staple and hasp. Each man will provide his own padlock. The boxes will be permanent fixtures of the barracks.

General Order No. 56, Apr. 30, 1875, General Orders and Circulars, RG94.

--1876, Stencil Plates, Scrubbing Brushes, and Brooms; the following are from ARQMG 1877, 272-73.

SPECIFICATIONS FOR SCRUBBING-BRUSHES.

The block to be made of oak, ten (10) inches long, one-half (½) inch thick, one (1) end miter-shaped. Knots made of the best sharp, strong, Western bristles.

At the straight end of the block are two (2) parallel rows of six (6) and seven (7) knots, respectively, of white bristles, about one (1) inch long, slanting outward; around the front is one (1) row of thirteen (13) slanting knots of the same size and material.

The body of the block contains four (4) rows of white bristles, eleven (11) knots in a row, and three (3) rows of black bristles, twelve (12) knots in a row, black and white alternately. These knots are three-fourths (¾) of an inch high. In the mitered end the knots are placed closer together, and about seven-eighths (⅞) of an inch high, black, with only one (1) row of white bristles. There are altogether one hundred and fifty (150) knots, drawn through the block with good strong wire.

The back of the block has a cover of bass or other suitable wood one-eighth (⅛) of an inch thick, firmly nailed to it.

Adopted May 31, 1876.

M. C. MEIGS,
Quartermaster-General, Bvt. Major-General, U. S. A.

SPECIFICATIONS FOR BROOMS.

The body of the broom is to be made of the best broom-corn, strong and pliable, from sixteen (16) to eighteen (18) inches long from the neck to the ends; held in shape by three ties of strong twine one (1) inch apart, the lower about five and one half (5½) inches distant from the handle.

At the middle tie the broom must be perfectly solid, about seven (7) inches wide and one and one-half (1½) inch thick, spreading at the ends to a width of about sixteen (16) inches.

The upper end of the broom is fastened around the handle by three (3) strands of twine nearest to the body of the broom, two strands near the handle, the part between these (2) fastenings being strongly interwoven with single strands of twine.

The handle, made of bass-wood, is about thirty-nine (39) inches long and one (1) inch in diameter. Whole weight about two (2) pounds. The broom accepted as Army standard is in the trade known as "Carpet Broom, No. 2."

Adopted May 31, 1876.

M. C. MEIGS,
Quartermaster-General, Bvt. Major-General, U. S. A.

SPECIFICATIONS FOR STENCIL-PLATES. [p. 272]

A complete set of stencil-plates consists of two full alphabets, Roman capitals, and including the usual mark for "&," and two series of numbers from "1 to 0."

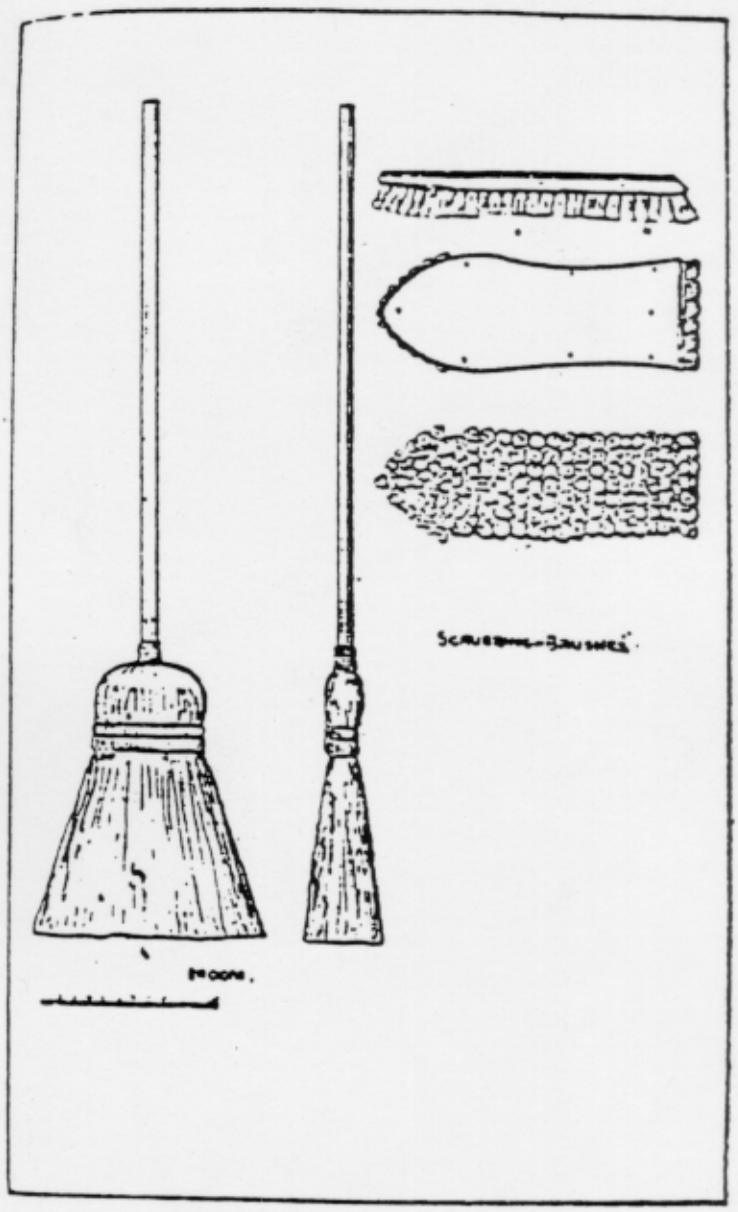
One set of letters and numbers to be one (1) inch, the other one-half (½) inch high. They are cut on plates of sheet-brass, No. 28, the larger two and a quarter (2¼) by two (2) inches, the smaller one and three-quarters (1¾) by one and a half (1½) inch. The upper edge of each plate is turned up so as to form a rim about one-half (½) inch high.

These plates are stored in japanned tin boxes eight and a half (8½) inches long, four (4) inches wide, and one and three quarters (1¾) inch deep, with hinged lids. Each box contains, besides the full sets of stencils, a cake of marking-paste in tin box, a sponge, and a stencil-brush. Printed directions for the use of the latter materials are fastened to the inside of the lid.

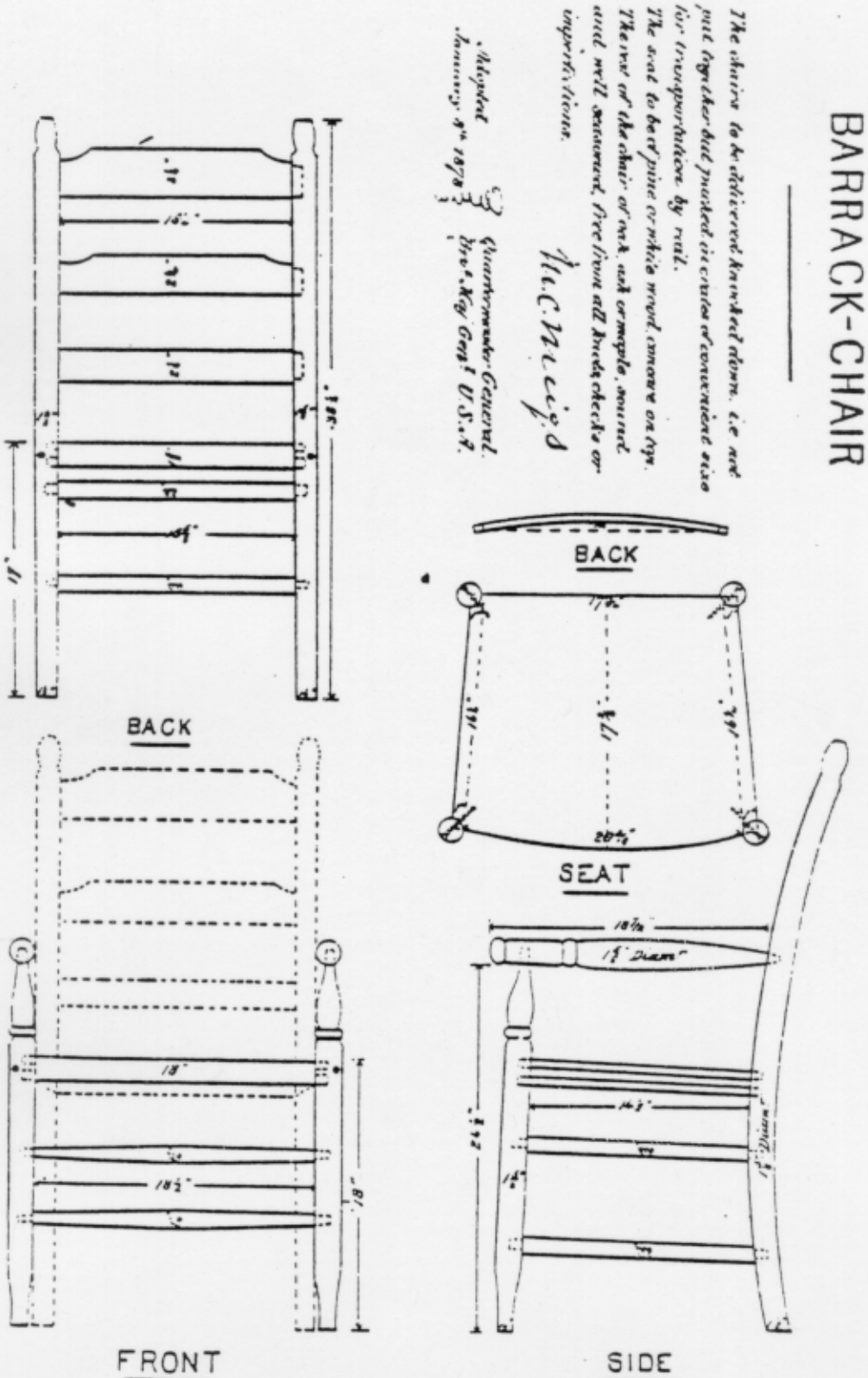
Adopted May 31, 1876.

M. C. MEIGS,

(From the Fort Davis "Historic Structure Report," origins not identified.)



1878, Barrack Chairs; from ARQMG 1878, 399f. Note, General Order 118 of 1877 established the following supply table for these chairs: one to every noncommissioned officer above the rank of corporal, and six for every 12 enlisted men of all other grades.



APPENDIX L
MISCELLANY

This appendix offers illustrations of miscellaneous contents of barracks during the 1870s, in order:

Advertising card showing the Johnson Hand Force Pump (from Correspondence Relating to Army Wagons, Annual Estimates . . . , RG92). Although the Johnson fire extinguisher came later than the Babcock, by the middle of the 1870s it was by far the most widely distributed extinguisher in the Army.

Patent Drawing, Babcock Patent Fire Extinguisher (from Records of the Patent Office, RG241, lodged in the Cartographic Center, NA). The Army purchased large numbers of these from Babcock and also from Champion, who manufactured them under license from Babcock. The housing was copper.

Drawings, specifications, and discussion of multiple shower-bath proposed by Billings in 1875 (from Report on Hygiene, x-xi).

"A NEW FIRE EXTINGUISHER."

Under the above heading in the Supplement of the Boston Advertiser, December 23, 1871, in an article from the Chicago Tribune, giving the result of Mr Joseph Bird's trial with one of Johnson's Patent Fire Annihilators, or Hand Force Pump, as witnessed by Fire Commissioner Chadwick, Rev. Robert Collyer, the editor of the Chicago Tribune, and a concourse of admiring firemen.

The editor states that three fires were kindled, the largest being a bonfire of twelve barrels and hogsheads filled with shavings, saturated with kerosene, which, after burning over five minutes, was extinguished in a little over one minute with four pails of water.

The opinion was then expressed that one of these little *Fire Kings* (weighing but three pounds, and costing but Ten Dollars,) in the policeman's hands who first arrived at the fire would have prevented the great Chicago conflagration.

MANUFACTURED BY

HILDRETH & JOHNSON,

67 Blackstone Street,

BOSTON, MASS.

Class 169-Fire Extinguishers,
~~Chemical Mixing,~~
Automatic.

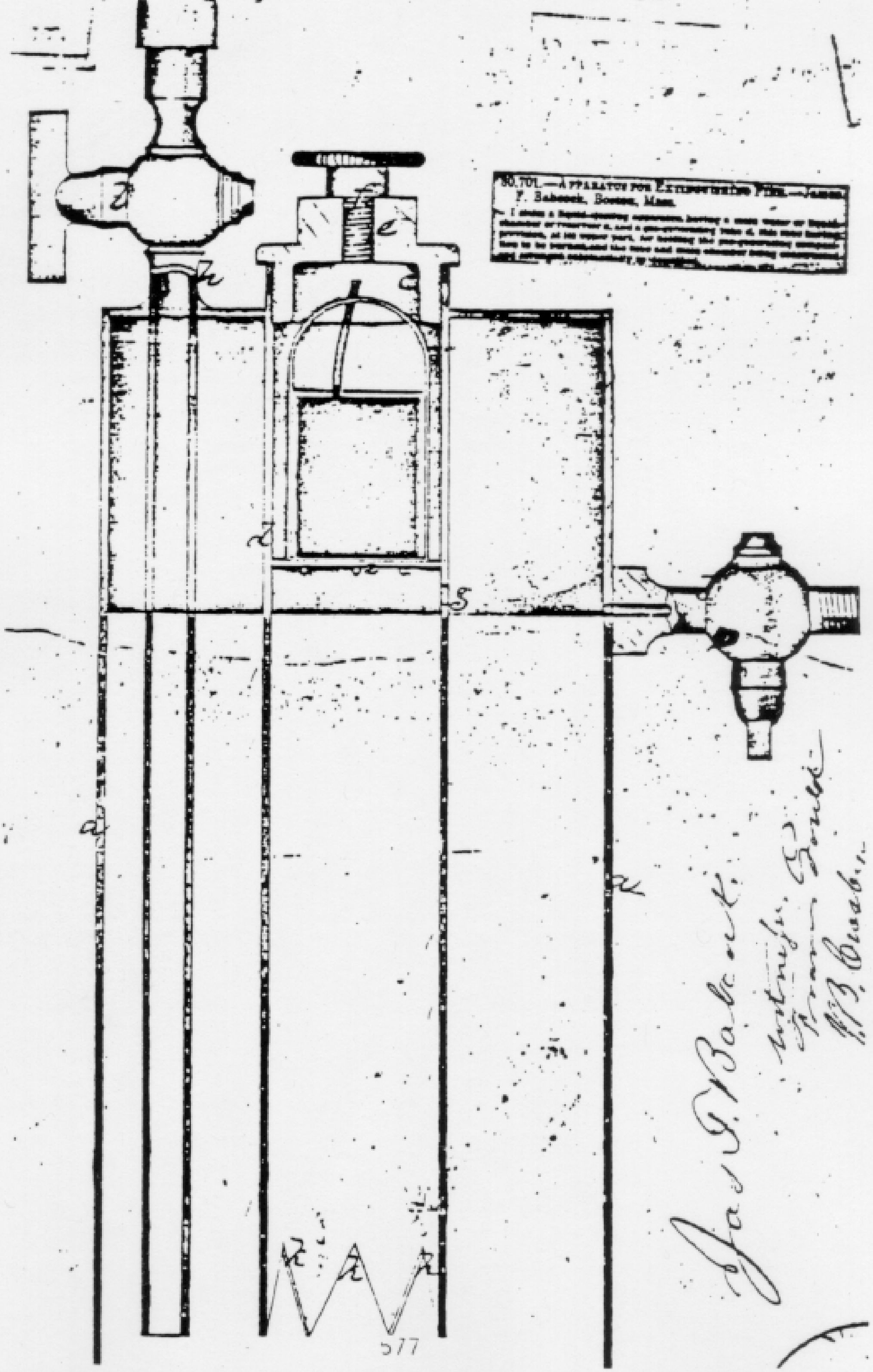
9251

No. 80701

J. F. Babcock.

Imp'd Fire-extinguishing Apparatus, etc.

80,701.—Apparatus for Extinguishing Fire.—James F. Babcock, Boston, Mass.



The plans proposed by the board for officers' quarters are also unsatisfactory, being too small, and lacking the conveniences which should be furnished. The want of bath-rooms in these quarters is especially to be condemned. The providing of conveniences for bathing, both for officers and enlisted men, is too much neglected; and were it not for the fact that the officers and men are very generally aware of the importance of the matter, and hence provide themselves with such makeshifts for bathing conveniences as can be obtained, the results would probably be serious. Next to fresh air and proper food, personal cleanliness is the most important agent in preserving the mind and body in proper working order, and it is not only a duty, but in the highest degree good policy and economy, on the part of the Government, to provide the necessary facilities. A dirty man will, in most cases, be a discontented, disagreeable, and dissolute man; for the condition of his skin has much more to do with a man's morals than is generally supposed.

I would strongly urge that cheap, strong bathing-tubs, or other means of cleansing the whole body, should be as regular a part of the supply of a post as bedsteads. It is by no means sufficient that bathing facilities are good in summer. These should be attended to, for no bath-tub can take the place of a plunge and swimming bath, and there are few posts where the latter cannot be arranged; but winter, as well as summer, should be provided for, and it is to be hoped that no plans for barracks or officers' quarters will be approved in future which do not contain provisions for bathing in cold weather.

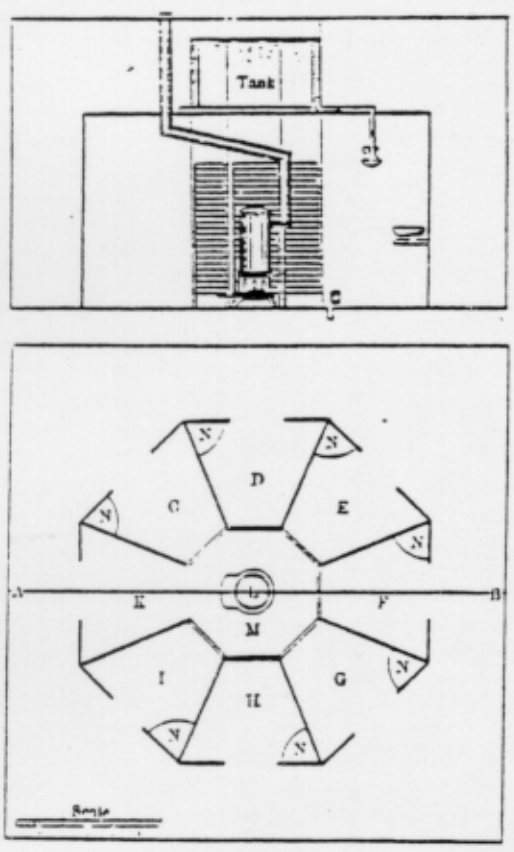


Figure 2.

The main difficulties in the way of arranging bath-houses for the winter use of the troops arise from deficient water-supply, and from difficulty in heating the room or rooms. Both these obstacles can be overcome, to a considerable extent, and without great expense, by using jets or showers instead of tubs, placing the shower about 5 feet 6 inches from the floor, and using warm water instead of cold. The bathers' stalls need not be large, and can be compactly arranged as shown in Figure 2.

1, plan; 2, vertical section on line A, B. C, D, E, F, G, H, I, bathing apartments; K, opening to stove; L, stove in central apartment, M, for heating the room and the water in the tank; N, shelves in corner of apartments for wash-basin, soap, &c. The central apartment, M, is 5 feet in diameter. Cells, or bathing apartments, are 4½ feet deep, and 5 feet 3 inches across widest end. There should be eight posts about the central chamber, for the support of the tank between these posts there should be open-work, (slats,) to allow the warm air generated by the stove to pass into the bathing-chambers. Doorways into chambers to

APPENDIX M

SOME FINISHES

This appendix presents specifications for various interior finishes used by the Army, from Barracks Regulations 1860, 480-82, along with some exterior finishes of interest.

480

CONSTRUCTION OF FIREPLACES AND CHIMNEYS, PLATE III.

The *principle* in building chimneys to draw well is to contract both the throat and the top of the flue. The first is effected by inclining the back of the fireplace forward, as at (a) figures 2 and 3, plate III, so as to give the throat about 4 inches from front to back. The area of the throat should not be greater than that of the body of the flue: thus, for a flue 12 x 12=144 square inches, the throat should not be greater than 4 x 36=144 square inches. As for the top of the chimney, it should, for exposed and windy situations, be about one third less than the size of the flue: that is, for a flue 12 x 12=144 square inches, the top should be contracted to 96 square inches, about 9¾ x 9¾; but in ordinary situations it is sufficient to make the flue two inches less in diameter immediately at the top than in the body. Besides these conditions, the offset from the throat to the back of the flue should be six inches above the arch or opening of the fireplace, and square, as at (c) in figure 2, not filled in or sloping as at (i) in figure 3. The inner corner of the arch or breast piece should be rounded, as at (b) in figures 2 and 3, not square as in figure 1.

The best flues are round or oval, like that made with the oval mold in Plate I for pisé work. For stone or brick chimneys, the masonry is built around a tin mold 1 or 2 feet long, closed at both ends, with a handle at one end to draw it out. Large fireplaces for wood require flues from 12 to 24 inches in diameter, depending on the height of the chimney, low chimneys requiring the longest. For coal they may be made smaller—from 8 to 10 inches in mean diameter.

MORTAR FLOORS.

Cover the bottom six inches deep with small stones packed evenly and closely. Over these spread a layer two inches thick of mortar, composed of gravel and newly-slaked lime, and tempered rather thinly, so that it will settle among the stones. When this coat has become firm, but not dry, plaster it over smoothly with a coat of mortar composed of one part of fresh lime to two parts of sand. While yet wet, wash it over with any agreeable color that may be desired.

Cement mixed with two parts of sand makes a harder and better floor than lime, and is to be preferred when it can be readily obtained.

PLASTER OF PARIS FLOOR.

Mix well together in a dry state plaster of Paris and clean sharp sand in the proportion of one barrel of plaster to five bushels of sand, then add enough clear water to give the consistency of thin mortar, stir well, and as quickly as possible pour the mortar on the prepared floor, spreading it evenly to the thickness of from ¾ of an inch to 1¼ inch, or more. As soon as the mortar has hardened sufficiently to bear a board without adhering to it, lay boards to stand on, and beat the plaster down with a rammer, made by inserting a handle four feet long in the center of a block 10 by 10 inches broad and 2½ or 3 inches thick, planed on the bottom surface. As soon as the mortar is properly beaten it must be smoothed over as perfectly as possible, and left 5 or 6 days to harden before being used. The mortar should be made in a tub or box in the room where it is to be used, and not more than a quarter of a barrel of the plaster of Paris should be mixed at a time, in order that it may not injure by standing.

No floor is superior to one made properly in this way, especially in a dry climate; and at some of the interior posts, as in the Red River country and New Mexico, the principal ingredient (found there in great abundance in the form of gypsum) can be obtained at less expense than boards. The plaster is prepared from the gypsum by burning it in a kiln, until the large masses have lost the brilliant sparkling appearance by which they are characterized, and the whole mass appears uniformly opaque. The burnt gypsum, when cold, is reduced to powder by grinding or pounding, and passed through a fine sieve.

CONSTRUCTION OF FIREPLACES AND CHIMNEYS, PLATE III.

The *principle* in building chimneys to draw well is to contract both the throat and the top of the flue. The first is effected by inclining the back of the fireplace forward, as at (*a*) figures 2 and 3, plate III, so as to give the throat about 4 inches from front to back. The area of the throat should not be greater than that of the body of the flue: thus, for a flue 12 x 12=144 square inches, the throat should not be greater than 4 x 36=144 square inches. As for the top of the chimney, it should, for exposed and windy situations, be about one third less than the size of the flue: that is, for a flue 12 x 12=144 square inches, the top should be contracted to 96 square inches, about 9¾ x 9¾; but in ordinary situations it is sufficient to make the flue two inches less in diameter immediately at the top than in the body. Besides these conditions, the offset from the throat to the back of the flue should be six inches above the arch or opening of the fireplace, and square, as at (*c*) in figure 2, not filled in or sloping as at (*i*) in figure 3. The inner corner of the arch or breast piece should be rounded, as at (*b*) in figures 2 and 3, not square as in figure 1.

The best flues are round or oval, like that made with the oval mold in Plate I for pisé work. For stone or brick chimneys, the masonry is built around a tin mold 1 or 2 feet long, closed at both ends, with a handle at one end to draw it out. Large fireplaces for wood require flues from 12 to 24 inches in diameter, depending on the height of the chimney, low chimneys requiring the largest. For coal they may be made smaller—from 8 to 10 inches in mean diameter.

MORTAR FLOORS.

Cover the bottom six inches deep with small stones packed evenly and closely. Over these spread a layer two inches thick of mortar, composed of gravel and newly-slaked lime, and tempered rather thinly, so that it will settle among the stones. When this coat has become firm, but not dry, plaster it over smoothly with a coat of mortar composed of one part of fresh lime to two parts of sand. While yet wet, wash it over with any agreeable color that may be desired.

Cement mixed with two parts of sand makes a harder and better floor than lime, and is to be preferred when it can be readily obtained.

PLASTER OF PARIS FLOOR.

Mix well together in a dry state plaster of Paris and clean sharp sand in the proportion of one barrel of plaster to five bushels of sand, then add enough clear water to give the consistency of thin mortar, stir well, and as quickly as possible pour the mortar on the prepared floor, spreading it evenly to the thickness of from ¾ of an inch to 1¼ inch, or more. As soon as the mortar has hardened sufficiently to bear a board without adhering to it, lay boards to stand on, and beat the plaster down with a rammer, made by inserting a handle four feet long in the center of a block 10 by 16 inches broad and 2½ or 3 inches thick, planed on the bottom surface. As soon as the mortar is properly beaten it must be smoothed over as perfectly as possible, and left 5 or 6 days to harden before being used. The mortar should be made in a tub or box in the room where it is to be used, and not more than a quarter of a barrel of the plaster of Paris should be mixed at a time, in order that it may not injure by standing.

No floor is superior to one made properly in this way, especially in a dry climate; and at some of the interior posts, as in the Red River country and New Mexico, the principal ingredient (found there in great abundance in the form of gypsum) can be obtained at less expense than boards. The plaster is prepared from the gypsum by burning it in a kiln, until the large masses have lost the brilliant sparkling appearance by which they are characterized, and the whole mass appears uniformly opaque. The burnt gypsum, when cold, is reduced to powder by grinding or pounding, and passed through a fine sieve.

MORTAR FOR COVERING EARTH ROOF.

It should be composed of cement and clean sharp sand, in the proportion of one barrel of cement to five bushels of sand. Prepare and put it on in the same manner and with the same precautions as the plaster of Paris for floors, but without beating.

MORTAR FOR PLASTERING OR ROUGH-CASTING THE EXTERIOR OF HOUSES

Is made, like common mortar, of lime and clean sand, in the proportion of one barrel of lime to nine bushels of sand, with the addition of eight pounds of brown sugar, which will produce strong crystalization, and cause the plaster to resist the action of the weather. For this purpose the sugar should be mixed in in small quantities on the mortar board when the plaster is being applied; and if the mortar is put on in two coats, which is preferable, the sugar is only used in the last.

The mortar may be put on entirely with the trowel. For *rough-casting*, the last coat especially, is thrown upon the wall by means of a broom made of small twigs. The coloring material is mixed in with the last coat. Small pebbles, not much larger than a pea, may be introduced into the second coat with advantage, both as regards durability and appearance.

WASHES FOR OUTSIDE COLORING FOR STONE, BRICK, ROUGH-CAST, OR WOOD.

1. *Ingredients*: $\frac{1}{2}$ barrel of lime, $\frac{3}{4}$ barrel of cement, $\frac{3}{4}$ peck of wood ashes, (hickory in preference,) $\frac{3}{4}$ gallon of boiled linseed oil, and for coloring, $1\frac{1}{2}$ pounds of Spanish brown, which will make a drab or fawn color. Slake the lime with clean water in a tub or barrel, as for whitewash; when fully in the process of boiling, add the linseed oil; after the lime is perfectly dissolved, add the ashes and stir well; when this mixture is cold, stir in the cement and Spanish brown, and add clear cold water to give the consistency of cream, and immediately apply the wash, in three coats, with a brush. One coat should not become perfectly dry before the next is applied; therefore, cloudy weather is preferable for the work, and in clear weather keep it as much in the shade as possible.

Good fresh lime will slake with cold water; but, if not, use hot water.

2. Slake half a bushel of fresh quick lime in a barrel or tub; when it is quite slaked, add two pounds of sulphate of zinc (white vitriol) dissolved in water, and sufficient water to bring the mixture to the consistency of thick whitewash. This wash is white. Color it by adding any mineral color that may be desired. Four pounds of yellow ocher will make it a cream color; four pounds of umber, one pound of Indian red, and half pound of lampblack, a fawn color; Spanish brown, a drab.

Lampblack, when mixed with water colors, should always be dissolved in alcohol.

3. Wash for brick, stone, stucco, or rough-cast: Slake half a bushel of fresh lime in a barrel, then fill the barrel two thirds full of water, and add one bushel of hydraulic cement; mix in three pounds of sulphate of zinc, dissolved in water; and add water, if necessary, to give the consistency of paint ready for use. A peck of white sand stirred in just before using will improve the wash. This wash has a pale stone color, nearly white. One pound of yellow ocher, two pounds of raw umber, and two pounds of Indian red, will make it a fawn color; one pound of Indian red, one pound of umber, and one pound of lampblack, a drab.

A CHEAP AND DURABLE PAINT FOR BRICK, STONE, OR OUTSIDE WOOD WORK.

Take fresh lime and reduce it to powder by slaking; to one peck of the powdered lime add one peck of fine white sand, or fine coal ashes, and two pecks of fresh wood ashes; mix the whole thoroughly together while dry, and sift them through a sieve; then mix them with as much

common linseed oil as will make the whole thin enough to work freely with a paint brush. This paint will be of a light gray stone color, nearly white. The color may be varied by the use of yellow ocher, Indian red, burnt umber, lampblack, or Spanish brown, first mixing the colors in oil. It is best to apply the paint in two coats; the first thin, the second thick.

A DURABLE PAINT FOR OUTSIDE WORK.

Fifty pounds of white lead, ten quarts linseed oil, half pound of dryers, fifty pounds finely sifted, sharp, clean sand, two pounds raw umber, or other desirable coloring material; mix and dilute the whole thoroughly with the oil, adding about half a pint of turpentine. Apply in two coats, the second thinner than the first, with a large brush. A wire brush is preferable, as the sand does not cut it away.

Colored washes for the exterior of houses preserve their appearance longer than white, and at the same time are more pleasing to the eye. Fawn, drab, grey, brown, or other quiet shades, are the most desirable. The dark shades are most suitable for out-buildings—as for instance, the stables, storehouses, guard-house, &c., in a garrison, while the lighter colors are more suitable for the quarters and other prominent buildings. The door and window casings, cornices, &c., should be of the same color as the walls, but several shades lighter or darker—that is, darker for light walls, and lighter for dark walls. A wash for the walls, and one of the cheap paints above described for the casings, &c., of quarters, of suitable colors, would make a good and cheap finish. The window-blinds of the quarters should be a very dark green.

STAINING FOR OUTSIDE WOOD WORK.

Turpentine, one and a half gallon; seed-lac, dissolved in alcohol, (in the proportion of one pound of seed-lac to one quart of alcohol,) two quarts; raw linseed oil, half gallon; boiled linseed oil, half gallon; beeswax, six pounds; ox-gall, one pound. Mix these ingredients well together, and to every four gallons of the mixture add one gallon of the best rosin-tar or pitch, and apply the stain with a large flat brush. A larger proportion of tar will make it resist the action of the weather better.

STAINING FOR INSIDE WOOD WORK.

1. Prepare the wood by washing it with a solution of sulphuric acid—an ounce of acid to a pint of warm water. It should be put on while warm. Then stain the wood by rubbing it over with tobacco stain by means of a piece of flannel or sponge. If a dark color is desired put on a second coat of the stain, which is made by boiling down common tobacco very slowly until it has the consistency of syrup and then straining it. When the stained wood is quite dry, brush it over with a mixture composed of half pound of beeswax and a half pint of raw linseed oil, and one pint of boiled linseed oil. It may afterwards be varnished and polished if desired.

One pound seed-lac dissolved in a quart of alcohol makes an excellent cheap varnish for covering stained wood.

2. For a dark oak color: yellow ocher, four pounds; burnt umber, two pounds; venetian red, one pound; lampblack, two fifths pound; and for black walnut color: yellow ocher, two pounds; burnt umber, two pounds; venetian red, one pound; lampblack, half pound. Dissolve each ingredient separately in glue water, made by boiling glue in water in the proportion of one pound of glue to a half gallon of water; mix the whole together, and add luke-warm glue water if necessary until the mixture has the consistency of thick cream, and apply it in one coat with a sponge. When it is perfectly dry varnish with a soft brush.

APPENDIX N

SIZE OF COMPANIES

The following are calculations of the average size of companies under each congressional establishment of army organization before 1880. At the head of each table is the year of the act(s) of Congress fixing the size and organization of the Army, together with the total authorized strength of officers and men. It should be noted that, except in the aftermath of wars, the Army was seldom at authorized strength; just after wars it exceeded its established maximum for a brief period. Some confusion is introduced in the late 1860s, when Congress established a maximum size for the Army, and at the same time prescribed a "minimum organization" to which the force was limited as a maximum. When applicable, the minimum organization in force is reflected in the tables.

Beneath each date are listed all the regiments and other organizations authorized for the Army by Congress. The figure at the right of each line is the average company strength, counting privates (PVTs) and noncommissioned officers (NCOs), but excluding both officers and NCOs in regimental positions (such as sergeant-majors, principal musicians, the like). This figure gives the average number of men in a company requiring barracks accommodations, and supports the determinations of room size and division addressed in Part V of this report.

The United States Army was established in the first act of Congress under the Constitution in 1789. Its original authorized strength was 886 officers and men, although that was raised to 1,273 in 1790, and to 2,232 in 1791. Because of the wars with Indians in the Northwest, the force expanded to an authorized 5,414 in 1792; afterwards, in 1796, Congress cut the Army to an authorized 3,359. Two years later, the quarrel with France caused Congress to expand the force to 4,159, then to 4,173. Later that year when matters became really serious, Congress enlarged the Army to 14,421 officers and men, although that force never took form except on paper. The same was true of the force of 51,691 in 1799. In

1800, when international tensions eased, Congress reorganized the force to the miniscule dimensions suggested in the first table below.

The information in this appendix is derived from the tables presented in Heitman, Historical Register, 2: 560-625. The last item presented is Heitman's table of actual army strength from 1789 to 1902, from page 626 of the same volume. Heitman's note about the unknowable actual strength in years before 1816 should be heeded.

May 14, 1800: Authorized Strength 4,436 Officers and Men.

Two regiments of artillerists and engineers, 32 companies @:	62
Light dragoons, 4 companies @:	63
Four regiments of infantry, 32 companies @:	62

March 16, 1802: Authorized Strength 3,287 Officers and Men.

Regiment of Artillerists, 20 companies @:	76
Two regiments of infantry, 20 companies @:	76

April 12, 1808: Authorized Strength 9,921 Officers and Men.

Regiment of Light Artillery, 10 companies @:	76
Regiment of Artillertists, 20 companies @	76
Regiment of Light Dragoons, 8 companies @:	76
Seven regiments of infantry, 70 companies @:	78
Regiment of Riflemen, 10 companies @:	78

June 26, 1812: Authorized Strength 35,752 Officers and Men.

Regiment of Light Artillery, 10 companies @:	88
Regiment of Artillerists, 20 companies @:	76
Two regiments of artillery, 40 companies @:	90
First Regiment of Dragoons, 8 companies @:	79
Second Regiment of Dragoons, 12 companies @:	79
Twenty-five regiments of infantry, 250 companies @:	102
Regiment of Riflemen, 10 companies @:	78

March 3, 1813: Authorized Strength 57,351 Officers and Men.

Regiment of Light Artillery, 10 companies @:	89

Regiment of Artillerists, 20 companies @:	77
Second and Third Regiments of Artillery, 40 companies @:	91
First Regiment of Dragoons, 8 companies @:	80
Second Regiment of Dragoons, 12 companies @:	80
Forty-four regiments of infantry, 440 companies @:	103
Regiment of Riflemen, 10 companies @:	79

March 30, 1814: Authorized Strength 62,674 Officers and Men.

Regiment of Light Artillery, 10 companies @:	89
Corps of Artillery, 48 companies @:	117
Regiment of Light Dragoons, 8 companies @:	114
Forty-four regiments of Infantry, 440 companies @:	103
Four regiments of riflemen, 40 companies @:	101
Regiment of Rangers, 10 companies @:	101
Sea Fencibles, 10 companies @	103:

March 3, 1815: Authorized Strength, 12,383 Officers and Men.

Regiment of Light Artillery, 10 companies @:	76
Corps of Artillery, 48 companies @:	117
Eight regiments of infantry, 80 companies @:	78
Rifle Regiment, 10 companies @:	78

March 2, 1821: Authorized Strength, 6,126 Officers and Men.

Four regiments of artillery, 36 companies @:	55
Seven regiments of infantry, 70 companies @:	51

April 5 and June 15 and 28, 1832 Authorized Strength 7,129 Officers and Men.

Four regiments of artillery, 36 companies @:	55
Seven regiments of infantry, 70 companies @:	51
Battalion of Mounted Rangers, 6 companies @:	110

March 2, 1833: Authorized Strength 7,194 Officers and Men.

Regiments of Dragoons, 10 companies @:	71
Four regiments of artillery, 36 companies @:	55
Seven regiments of infantry, 70 companies @:	51

May 23 and July 4, 1836: Authorized Strength 7,957 Officers and Men.

Two regiments of dragoons, 20 companies @:	71
Four regiments of artillery, 36 companies @:	55
Seven regiments of infantry, 70 companies @:	51

July 5 and 7, 1838: Authorized Strength 12,539 Officers and Men.

Two regiments of dragoons, 20 companies @:	71
Four regiments of artillery, 40 companies @:	71
Seven regiments of infantry, 80 companies @:	90

May 12, 15, and 19 and June 18 and 26, 1846: Authorized Strength 12,539 Officers and Men.

Two regiments of dragoons, 20 companies @:	110
Regiment of Mounted Riflemen, 10 companies @:	76
Four regiments of artillery, 40 companies @:	112
Eight regiments of infantry, 80 companies @:	110

February 11, and March 3, 1847: Authorized Strength 30,865 Officers and Men.

Three regiments of dragoons, 30 companies @:	113
Regiment of Mounted Riflemen, 10 companies @:	114
Four regiments of artillery, 48 companies @:	114
Sixteen regiments of infantry, 160 companies @:	110
Regiment of Voltigeurs, 10 companies @:	110

August 14, 1848: Authorized Strength 10,317 Officers and Men.

Two regiments of dragoons, 20 companies @:	61
Regiment of Mounted Riflemen, 10 companies @:	76
Four regiments of artillery, 48 companies @:	54
Eight regiments of infantry, 80 companies @:	52

March 3, 1855: Authorized Strength 12,698 Officers and Men.

Two regiments of dragoons, 20 companies @:	61
Two regiments of cavalry, 20 companies @:	61
Regiment of Mounted Riflemen, 10 companies @:	76
Four regiments of artillery, 48 companies (see note) @:	58 average
Ten regiments of infantry, 100 companies @:	52

Note: The act of June 17, 1850, directed that two companies in each of the four artillery regiments be equipped as light artillery, with 64 instead of 42 privates per company; the figure shown is an average including NCOs. The same act authorized the president, when circumstances required, to increase to 74 the number of privates in any company at remote or western stations; the table above reflects the current minimum force, with 50 privates to a company of dragoons, 64 per company of light artillery and riflemen, and 42 per company of artillery or infantry. By 1855 the president had directed that the number of privates be raised to 74 in companies serving in Florida and Key West; in Texas, New Mexico, California, and Oregon; at Forts Snelling and Ripley on the Mississippi; at Fort Ridgely on the Minnesota; Fort Riley, Kansas; Fort Gibson, Oklahoma; Fort Arbuckle, Oklahoma; at Forts Kearny and Laramie on the Oregon Trail; in the companies on the Sioux expedition; and in all companies of the 10th Infantry, bound for distant service. The total increase of enlisted strength was 5,164, making an actual authorized strength of 17,862 officers and men. If the president were to exercise his full authority, the latter figure could grow to 18,318.

July 29, and August 3, 1861: Authorized Strength 39,273 Officers and Men.

1st, 2nd, 4th, and 5th Cavalry Regiments, 40 companies @:	63
3rd Cavalry Regiment, 10 companies @:	78
6th Cavalry Regiment, 12 companies @:	92
1st, 2nd, 3rd, and 4th Artillery Regiments, 48 companies @:	58 average
5th Artillery Regiment, 12 companies @:	149
1st through 10th Infantry Regiments, 100 companies @:	55
Nine regiments of infantry (New Army), 216 companies @:	98

The provisions of the act of June 17, 1850, discussed above were still in effect for the four old artillery regiments. Those authorizing expanded companies still applied. In 1861 the president had exercised part of his option, adding 1,974 privates, making a total authorized strength of 41,257. The companies were increased in forces serving on the coast of Florida, in Kansas, Nebraska, Utah, Texas, New Mexico, California, Oregon, and Washington, and at Forts Ripley, Ridgely, Arbuckle, Washita, "or elsewhere in the Indian country west of the Mississippi."

The total optional increase available in 1861 was 5,620, which would increase the authorized strength to 44,893. Given the disturbances of the Civil War, including such events as the surrender of the Texas posts, these figures must be accepted with great care.

July 28, 1866: Authorized Strength 54,641 Officers and Men.

Ten regiments of cavalry, 120 companies @:	100
Five regiments of artillery, 60 companies @:	94 average
Forty-one regiments of infantry, 410 companies @:	69
Four regiments of infantry (Veterans Reserve Corps), 40 cos. @:	69
Fifteen brigade or post bands, 15 bands @:	24

The table reflects the minimum organization of artillery and infantry regiments: 50 companies of artillery (not mounted) with 4 sergeants, 8 corporals, and 64 privates, and 10 companies (mounted) with 6 sergeants, 12 corporals, and 122 privates to a company, and 50 privates to each company of infantry (yes, there were 19 NCOs per infantry company by 1866). If all of the companies of the infantry arm were increased to their maximum strength (100 privates), and if the artillery regiments were increased to full complement, the total authorized strength would be 80,258.

March 3, 1869: Authorized Strength 37,313 Officers and Men.

Ten regiments of cavalry, 120 companies @:	80
Five regiments of artillery, 60 companies @:	84 average
Twenty-five regiments of infantry, 250 companies @:	69

The table reflects the minimum organization: 60 privates to each company of cavalry, 55 companies of artillery (not mounted) with 2 first and 1 second lieutenants (not figured in the average company size), 4 sergeants, 8 corporals, and 64 privates; and 5 companies (mounted) with 2 first and 2 second lieutenants, 6 sergeants, 12 corporals, and 122 privates to a company, and 50 privates to each company of infantry. If all the companies were increased to the maximum--cavalry 78 privates and infantry 100 privates--with the artillery at maximum complement, the total strength would be 55,618.

July 15, 1870: Authorized Strength 35,353 Officers and Men.

Ten regiments of cavalry, 120 companies @:	77
Five regiments of artillery, 60 companies @:	84 average
Twenty-five regiments of infantry, 250 companies @:	65

The table reflects the minimum organization: 60 privates to a company of cavalry, 55 companies of artillery (not mounted) with 2 first lieutenants, 1 second lieutenant, 4 sergeants, 4 corporals, and 64 privates, and 5 companies of artillery (mounted) with 2 first lieutenants, 2 second lieutenants, 6 sergeants, 4 corporals, and 122 privates to a company, and 50 privates to an infantry company. A maximum 1,000 Indian scouts were authorized, but only 151 showed on the books in 1870.

June 16 and 23, 1874, March 2 and 3, 1875, and June 26, 1876: Authorized Strength 27,472 Officers and Men.

Ten regiments of cavalry, 120 companies @:	70
Five regiments of artillery, 60 companies @:	43
Twenty-five regiments of infantry, 250 companies @:	48

The act of June 16, 1874, limited the number of enlisted men to 25,000 including Indian scouts and excepting the signal service. A maximum 1,000 Indian scouts were authorized but only 300 were shown. The Signal Detachment included 400 enlisted men. Congress did not change the organization again until 1889. Infantry companies averaged less than 34 privates, cavalry 54, and artillery less than 29.

Actual strength of the Regular Army of the United States at stated periods in each year from 1789 to 1902.

[Retired officers not included.]

Date.	Officers.	Men.	Total.	Date.	Officers.	Men.	Total.
1789[a]	46	840	886	November, 1853	961	9,456	10,417
1790[a]	67	1,216	1,273	November, 1854	956	9,789	10,745
1791[a]	104	2,128	2,232	November, 1855	1,042	14,710	15,752
1792 to 1796[a]	258	5,156	5,414	June, 1856	1,072	14,490	15,562
1796 to 1798[a]	213	3,126	3,339	June, 1857	1,097	14,667	15,764
1798[a]	783	13,638	14,421	June, 1858	1,099	16,399	17,498
1799[a]	2,447	49,244	51,691	December, 1859	1,077	15,358	16,435
1800 to 1801[a]	318	4,118	4,436	December, 1860	1,108	15,259	16,367
1802 to 1808[a]	241	3,046	3,287	June, 1861	1,004	15,418	16,422
1808 to 1812[a]	774	9,147	9,921	June, 1862	1,720	23,761	25,480
1812[a]	1,657	34,095	35,752	June, 1863	1,844	22,915	24,759
1813[a]	3,260	54,091	57,351	June, 1864	1,813	19,791	21,604
1814[a]	3,495	59,179	62,674	April, 1865	1,605	20,705	22,310
July, 1815[a]	674	11,709	12,383	June, 1866	2,020	31,470	33,490
December, 1816	725	9,298	10,024	August, 1867	2,853	53,962	56,815
December, 1817	640	7,580	8,220	August, 1868	2,835	48,081	50,916
December, 1818	640	7,036	7,676	August, 1869	2,700	34,074	36,774
December, 1519	611	8,047	8,688	August, 1870	2,541	34,534	37,075
December, 1820	712	8,220	8,942	August, 1871	2,105	26,848	28,953
December, 1021	530	5,216	5,746	June, 1872	2,104	27,110	29,214
November, 1822	512	4,699	5,211	June, 1873	2,076	27,580	29,656
November, 1823	525	5,424	5,949	June, 1874	2,080	28,440	30,520
November, 1824	532	5,247	5,779	June, 1875	2,094	23,580	25,674
November, 1825	562	5,157	5,719	June, 1876	2,151	24,161	26,312
November, 1825	540	5,269	5,809	June, 1877	2,178	22,676	24,854
November, 1827	546	5,176	5,722	June, 1878	2,153	23,701	25,854
November, 1828	540	4,989	5,529	June, 1879	2,127	24,341	26,468
November, 1829	608	5,561	6,169	June, 1880	2,152	24,357	26,509
November, 1830	627	5,324	5,951	June, 1881	2,181	23,561	25,742
December, 1831	613	5,256	5,869	June, 1882	2,162	23,477	25,639
November, 1832	659	5,443	6,102	June, 1883	2,143	23,404	25,547
November, 1833	666	5,746	6,412	June, 1884	2,156	24,268	26,421
November, 1834	669	6,155	6,824	June, 1885	2,107	24,731	26,898
November, 1835	680	6,471	7,151	June, 1886	2,111	24,143	26,254
November, 1836	672	5,611	6,283	June, 1887	2,200	24,394	26,594
November, 1837	642	7,192	7,834	June, 1888	2,189	24,687	26,876
November, 1838	701	7,952	8,653	June, 1889	2,177	25,367	27,544
November, 1839	716	8,988	9,704	June, 1890	2,168	24,921	27,089
December, 1840	733	9,837	10,570	June, 1891	2,052	24,123	26,175
November, 1841	754	10,415	11,169	June, 1892	2,140	24,760	26,900
November, 1842	781	9,847	10,628	June, 1893	2,158	25,361	27,519
November, 1843	805	8,130	8,935	June, 1894	2,146	25,788	27,934
November, 1844	813	7,760	8,573	June, 1895	2,154	25,018	27,172
November, 1845	826	7,523	8,349	June, 1896	2,169	24,869	27,038
December, 1846	879	9,811	10,690	June, 1897	2,179	25,353	27,532
November, 1847	1,353	20,333	21,686	June, 1898	2,198	45,669	47,867
November, 1848	929	9,106	10,035	June, 1899	2,471	62,258	64,729
November, 1849	945	9,640	10,585	June, 1900	2,486	65,669	68,155
November, 1850	948	9,815	10,763	June, 1901	2,940	78,646	81,586
November, 1851	914	9,594	10,538	June, 1902	3,604	70,900	74,504
November, 1852	957	10,245	11,202				

[a] The returns of the Army covering these years are incomplete, and the authorized, instead of the actual, strength is here shown.

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Medical Histories of Posts

Records of the Office of the Quartermaster General, Record Group 92

Consolidated Correspondence File, 1794-1890. This enormous pile of records, the largest share of Record Group 92, was the principal archival source for this project. The materials are arranged alphabetically by subject, with the subjects named willy-nilly, so that the researcher conducts his search by calling for as many files he can think of under whatever names seem pertinent; often the results are nil. The following entry calls proved to be productive for this project: Babcock, barracks, blankets, bed (iron), furnishings, and hospitals. The following either brought no files or files of little or no value: arm racks, bedding/bedsacks, beds, benches, chairs, Composite, Coyle army bunk, dormitories, fire extinguishers, fireplaces, Fort Laramie, Wyoming, Fort Larned, Kansas, garrison and camp equipage, guardhouses, inspections, Johnson Forcible Hand Pump, kitchens, lamps/lighting, mattresses, paint, quarters, stoves, tables, ventilating fireplace, weapon racks, musket racks, and so on.

Abstracts of Orders &c. Received, 1836-41

Correspondence Relating to Army Wagons, Annual Estimates, Purchase of Force Pumps and Padlocks, 1873

F Series: U. S. Military Posts of the Late 19th Century (photographs)

General Orders, Inspection Branch, January 3, 1865 to March 3, 1869

Letters and Papers Received Re: Clothing Accountability (little value)

Letters and Reports Received Relating to Inspection Duties, 1864-1869 (little value)

Letters Received from the Surgeon General, 1864-1870 (little value)

Miscellaneous Records Relating to Reservations and to Buildings, 1819-1865

Miscellaneous Specifications, 1875-1884

Orders &c. Received, 1818-1835 (little value)

Press Copies, Circulars Issued by the Quartermaster General's Office, 1862-1870 (little value)

Records Relating to the 1878 Annual Reports of the Quartermasters (little value)

Records Relating to the Lighting of Barracks and Quarters, 1879-1886 (little value)

Special Orders, Inspection Branch, January 12, 1865 to October 17, 1868 (little value)

Records of the Office of the Surgeon General, Record Group 112

Abstract of Property Returns, 1858-1866

Circulars and Circular Letters, 1861-1885

Report on Living Conditions at Posts in the South, 1868-1869

Records of the Patent Office, Record Group 241

Patent Files, General Archives Division, National Records Center, Suitland, Maryland

Patent Drawings, Center for Cartographic and Architectural Archives, National Archives Building

Records of the United States Army Commands, Record Group 98
(Incidental searches of military post records)

Center for Cartographic and Architectural Archives
Large Patent Drawings
Plans and Records of Military Posts

Still Pictures Branch
F Series, Record Group 92, Photographs of 19th Century Military Posts
Brady Collection of Civil War Photographs
Miller Collection of Civil War Photographs

OTHER COLLECTIONS

Indiana University Libraries, Bloomington, Indiana
Main Library
Government Documents and Publications Department
General and Reference Collections
Ellison Collection
Lilly Library and Rare Books and Manuscripts Repository
Lilly Collection
Manuscripts Collection
General Collection

United States Army Military History Research Institute, Carlisle Barracks, Pennsylvania
General and Special Collections

Library of Congress, Washington, D. C.
Stack and Reader Division (Main Stacks)
Prints and Photographs Division
Manuscripts Division

Annual reports of the secretary of war, commanding general of the army (title varies), quartermaster general, surgeon general, chief of engineers, commissary general of purchases, commissary general of subsistence, adjutant general (when presented), and inspector general (when presented), 1822-1882. These are all combined into the annual report of the secretary of war and submitted to the Congress with the annual message of the president. From 1822, when they began, through 1837, they were published in American State Papers, Class V. Military Affairs (7 volumes); thereafter they may be found in the Congressional Documents Serial Set, usually as House or Senate document or executive document 1. Their informative value varied for this report. The reports of the quartermaster general and commissary general of purchasing were always informative, those of the secretary of war, surgeon general, and commanding general usually or often so; those of the Engineer and Subsistence Departments were of limited value. The reports of the Ordnance Department during the early 1840s were useful on the matter of developments in Europe.

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As the nation's principal conservation agency, the Department of the Interior has basic responsibilities to protect and conserve our land and water, energy and minerals, fish and wildlife, parks and recreation areas, and to ensure the wise use of all these resources. The department also has major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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